

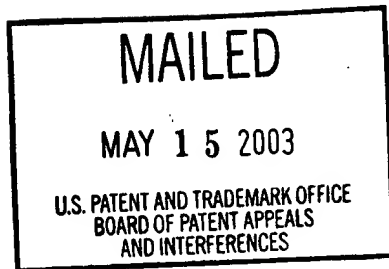
The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte ANGELO T. DONFRANCESCO
and
NELSON BONILLA



Appeal No. 2003-0265
Application No. 09/105,150

ON BRIEF

Before ABRAMS, McQUADE, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 4 to 16 and 18, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to a terminal assembly having an externally threaded screw engaged within an internally threaded bore of a terminal, with the screw thread being deformed adjacent to an end remote from the screw head. The deformation acts as a stop to limit removal of the screw from the terminal bore (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

Claims 1, 4 to 16 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,068,445¹ to Crowther.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejection, we make reference to the final rejection (Paper No. 20, mailed November 20, 2001) and the answer (Paper No. 23, mailed May 3, 2002) for the examiner's complete reasoning in support of the rejection, and to the brief (Paper No. 22, filed February 19, 2002) and reply brief (Paper No. 24, filed July 2, 2002) for the appellants' arguments thereagainst.

¹ Issued December 11, 1962.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the Crowther patent, and to the respective positions articulated by the appellants and the examiner. Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims under appeal. Accordingly, we will not sustain the examiner's rejection of claims 1, 4 to 16 and 18 under 35 U.S.C. § 103. Our reasoning for this determination follows.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

The claimed subject matter

Claims 1, 11 and 16, the independent claims on appeal, read as follows:

1. A terminal assembly, comprising:
a terminal base having a bore with a internal thread;

a screw having a shank with opposite first and second ends and with an external thread, and having a head on said first end of said shank, said second end of said shank being circular and substantially planar; and

a deformation in a portion of said external thread adjacent said second end of said shank, said deformation being a stake formed in said second end of said shank and extending along a chord of said second end transverse to the longitudinal axis of the shank;

whereby said deformation limits removal of said screw from said bore.

11. A terminal assembly, comprising:

a terminal having a base plate including a bore with an internal thread of a first axial length;

a screw having a shank with opposite first and second ends and with an external thread of a second axial length threadedly mating with said internal thread, and having a head on said first end of said shank, said second end of said shank being planar and circular, said second axial length being substantially greater than said first axial length; and

a stake formed in and extending along a chord of said second end transverse to the longitudinal axis of said shank, said stake creating a deformed portion of said external thread having a reduced width between adjacent crests thereof relative to other portions of said external thread, said deformed portion of said external thread forming a stop which does not threadedly mate with said internal thread.

16. A method of forming a terminal assembly, comprising the steps of threading an external thread of a shank of a screw into a bore in a terminal with an internal thread, the shank having opposite first and second ends with a head at said first end; and

deforming a portion of the external thread adjacent the second end of the shank to limit the amount the screw can be backed out of the bore by staking said second end along a line extending across the second end and offset from and perpendicular to a longitudinal axis of the shank.

Crowther

Crowther's invention relates to an electrical connector wherein a device of the type commonly known in the art as a "bus bar" is mechanically formed so that, when

used in combination with other elements, it will accept lead wires or secondary conductors and removably retain same in direct contact with the material of the bus bar. Figure 1 is a perspective view of one embodiment of Crowther's invention, while Figure 2 is a partial sectional view taken along the longitudinal axis of the embodiment shown in Figure 1 and illustrating the use of the connector when the secondary conducting wires accommodated in the connector are of dissimilar diameters.

Referring now to the drawings, a connector 10 includes a base 12, a clamp 14 and a rotary threaded fastener or screw 16. The base 12 is an electrically conductive member and can be a member of substantial cross-section of the type generally known in the trade as a bus bar. The base 12 has a threaded aperture 18. Spaced apart along the longitudinal axis of the base 12 on opposite sides of aperture 18 are a pair of transverse slots 20. Telescopically associated with threaded aperture 18 is the rotary threaded fastener or screw 16. Screw 16 has suitable driving means such as a slot or knurls on its head. The shank of the screw has an unthreaded portion 24 and a threaded portion 26 extending to the free extremity of the screw. The clamp 14 includes a centrally aperture central section 28 and a pair of arms 30 extending outwardly and downwardly from opposite sides of the central section 28 and are adapted to be accommodated within the slots 20. In the operation of Crowther's device, one or more wires 34 can be inserted in the passageway formed between the

base 12, the leg 30, the central portion 28, and the screw 16. Crowther teaches (column 2, lines 26-30) that "[a]s a safety precaution, so that the clamp 14 cannot be completely removed from the base 12, the last thread at the free extremity of screw 16 can be distorted as indicated at 36 by peening the end of the screw or by other suitable means."

Ascertainment of the differences

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Crowther and claim 1, it is our opinion that the only difference is the limitation that the deformation in a portion of the external thread of the screw adjacent the second end of the shank being a stake formed in the second end of the shank and extending along a chord of the second end transverse to the longitudinal axis of the shank.

Based on our analysis and review of Crowther and claim 11, it is our opinion that the only difference is the limitation that a stake is formed in and extending along a chord of the second end transverse to the longitudinal axis of the shank of the screw

wherein the stake creates a deformed portion of the external thread of the screw having a reduced width between adjacent crests thereof relative to other portions of the external thread.

Based on our analysis and review of Crowther and claim 16, it is our opinion that the only difference is the limitation of deforming a portion of the external thread adjacent the second end of the shank of the screw to limit the amount the screw can be backed out of the bore of the terminal by staking the second end along a line extending across the second end and offset from and perpendicular to a longitudinal axis of the shank.

Obviousness of claimed subject matter

With regard to these differences, the examiner determined (final rejection, pp. 2-4) that such differences would have been obvious at the time the invention was made to a person of ordinary skill in the art. The appellants argue throughout both briefs that the applied prior art does not suggest the claimed subject matter.

Evidence of a suggestion, teaching, or motivation to modify a reference may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see Pro-Mold &

Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), Para-Ordinance Mfg., Inc. v. SGS Importers Int'l., Inc., 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), cert. denied, 117 S. Ct. 80 (1996), although "the suggestion more often comes from the teachings of the pertinent references," In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., C.R. Bard Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998), cert. denied, 119 S. Ct. 1804 (1999). A broad conclusory statement regarding the obviousness of modifying a reference, standing alone, is not "evidence." Thus, when an examiner relies on general knowledge to negate patentability, that knowledge must be articulated and placed on the record. See In re Lee, 277 F.3d 1338, 1342-45, 61 USPQ2d 1430, 1433-35 (Fed. Cir. 2002). See also In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). To establish obviousness, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellants. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the

teachings of that reference. See In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000).

In our opinion the examiner has not presented **evidence** that would have led one of ordinary skill in the art to arrive at the claimed invention. Thus, the examiner has not established a prima facie case of obviousness with respect to the claims under appeal. We agree with the examiner that Crowther does teach distorting the last thread at the free extremity of screw 16 by peening the end of the screw (i.e., the end of screw 16 which is circular and substantially planar and is transverse to the longitudinal axis of the screw). However, Crowther does not teach or suggest forming a stake in the second end of the screw which extends along a chord or along a line extending across the second end (i.e., a chord) as recited in all the claims under appeal. To supply this omission in the teachings of Crowther, the examiner made a determination (final rejection, pp. 2-4) that these differences would have been obvious to an artisan. However, this determination has not been supported by any **evidence** that would have led an artisan to arrive at the claimed invention.

In our view, the only suggestion for modifying Crowther in the manner proposed by the examiner to meet the above-noted limitations stems from hindsight knowledge derived from the appellants' own disclosure. The use of such hindsight knowledge to

support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible.
See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553,
220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

For the reasons set forth above, the decision of the examiner to reject claims 1,
4 to 16 and 18 under 35 U.S.C. § 103 is reversed.

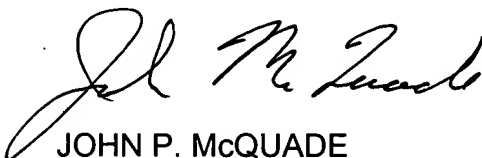
CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 4 to 16 and 18
under 35 U.S.C. § 103 is reversed.

REVERSED



NEAL E. ABRAMS
Administrative Patent Judge



JOHN P. McQUADE
Administrative Patent Judge



JEFFREY V. NASE
Administrative Patent Judge

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